

FACT SHEET

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FEEDING THE INFANT

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A baby's health is vitally related to diet and food. Your baby's doctor or pediatrician is an important source of information regarding what and how to feed your baby. He or she knows when breast feeding is advisable; the kind of formula best suited if the baby is not breast fed; the kinds and amounts of vitamin and mineral supplements needed; and when and in what order to add solid foods to baby's diet.

This fact sheet is to help you understand the diet information given by your doctor. It includes general infant feeding practices, nutrient needs of babies, and some special infant nutrition problems.



Baby's First Food — Milk

The most perfect food for infants is mother's milk, although most American mothers formula feed their babies. During the past 30 years, the number of mothers breast feeding their babies has decreased from 65 percent to 10 to 15 percent. By the age of 6 months, less than 5 percent of babies are breast fed.

The decision to breast feed or formula feed rests on several factors. Families should try to make this decision long before baby is due. Listed below are some considerations:

NUTRITIONAL

Breast Feeding

It is generally believed mother's milk is best suited to the growth needs of baby. In addition, some antibodies and immunity factors may be passed on to baby in colostrum (secretion that precedes mature milk) and human milk.

Bottle Feeding

Many formulas are available which approximate the composition of breast milk. Special formulas that meet baby's nutritional needs may be bottle fed if the mother is in poor health or if the baby is allergic to human or cow's milk.

PSYCHOLOGICAL

Breast Feeding

A feeling of intimacy develops when mother nurses her baby. Baby responds to this love and security which develops into a warm relationship between mother and baby.

Bottle Feeding

The same feeling of intimacy can exist when mother holds the baby and feeds from the bottle. In addition, other family members can share in this experience.

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ECONOMIC

Breast Feeding

Although the milk itself is virtually "free," the cost of feeding the lactating mother will require consideration. The nursing mother requires more nutrients to make milk for baby and to maintain her health as well. However, with the wide selection of foods available, wise choices can be made to provide needed nutrients at low cost.

Bottle Feeding

Although commercially prepared formulas are the most popular type of formula, home-prepared formulas are usually less expensive. Ask the advice of your pediatrician as to the type of formula to feed, and then consider the different forms of milks and sugars or formulas to fit your budget.

Higher cost Lower cost

HOME

PREPARED FORMULAS
fluid milk evaporated milk

COMMERCIAL

PREPARED FORMULAS
ready-to-feed dried powder

Selected Nutrients in Milks and Formulas

	Breast milk	Whole cow's milk	Evaporated milk	Commercially prepared infant formula
Ascorbic acid	S	X	X	S
Vitamin D	X	S	S	S
Iron	X	X	X	S*
Fluoride**	X	X	X	X

Key: X — inadequate supply; S — sufficient supply

*Provided it is iron-fortified infant formula.

**The amount of fluoride in the water supply and how much the infant consumes will determine whether a supplement should be given.

Baby's needs for dietary iron are not immediate because the baby is born with a supply that lasts 3 to 6 months. Many pediatricians do not recommend feeding iron-fortified formulas to young infants. After 3 months, foods containing iron are usually added to the diet, since milk does not contain sufficient iron to maintain the blood hemoglobin level.

The Committee on Nutrition of the American Academy of Pediatrics has recommended continuing iron-fortified formula as long as the infant is bottle fed, and then using the same iron-fortified formula as beverage milk along with the usual solid foods until the infant is at least 12 months of age in an attempt to alleviate iron-deficiency anemia common during infancy.

SOCIAL

Breast Feeding

Breast feeding and social acceptance appear to be related to social class. Since the 1960's, breast feeding is less common among lower than among upper social classes in the United States.

Bottle Feeding

Bottle feeding may offer more freedom and flexibility for professional and social life. Bottle feeding may be more desirable if mother must return to work shortly after baby is born.

Babies receiving an adequate caloric intake of milk from a healthy, well-nourished mother, from a cow's milk formula, or from a commercially prepared formula will receive an adequate supply of most nutrients. Those nutrients which may deserve special attention include ascorbic acid, vitamin D, iron and fluoride. Depending upon the type of milk your baby receives, your pediatrician will prescribe vitamin and mineral supplements as needed.



Adding Solid Foods

Follow your pediatrician's advice on when to add solid foods. This varies from a few days after birth to 4 months. The child is able to digest and utilize solid foods even during the first few days. Most babies begin eating solid infant foods after about 6 weeks. Up until this time, the baby can get sufficient nutrients from milk formula or breast milk, orange juice, water and a vitamin and mineral supplement.

Generally, solid foods are given first at the night feeding. Solid foods are more filling, and they enable the baby to sleep through the night without feeding.

Precooked fortified cereal is the first solid food added. Cereals made from single grains such as rice, barley or oats are usually recommended as starting cereals. This makes it easier to spot foods that may not agree with the infant. Later, mixed cereals and high protein cereals may be added. Cereals with added fruit are usually lower in iron. Read the label for nutritional information.

When solid foods are introduced to a baby for the first time, he may have some difficulty in moving food to the back of his mouth and swallowing it. For this reason the cereal should be fairly fluid (1 teaspoon cereal to 2 to 3 teaspoons milk or formula). Soon the baby will learn how to manipulate and swallow solid food. The addition of cereals should be gradual and in small amounts. For example, the mother may begin by feeding only one-fourth to one-half teaspoon of cereal.

Pureed fruits and vegetables are added to the diet next. Add small amounts of fruits or vegetables to the diet gradually. Serve a variety of fruits and vegetables to introduce the baby to new flavors and textures. If he refuses to eat some fruit or vegetable, substitute others. Fruits and vegetables are important for the variety of vitamins and minerals they contribute.

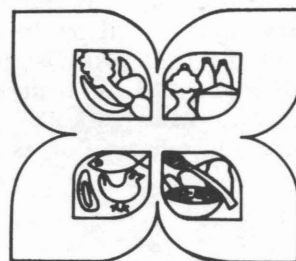
Strained meats and egg yolks usually are added to the diet after fruits and vegetables have been well established. However, some pediatricians recommend that strained meats be added at the same time as cereals. Meats and egg yolks are a good source of iron, a mineral that becomes increasingly necessary in the diet after 3 to 6 months. Meats usually are strained or pureed. Egg whites often are withheld from the diet for the first year because infants are sometimes allergic to them.

Crackers and toast are given to babies to train them to chew food. These finger foods are easy for the baby to manage when he begins to want to feed himself. Toast and crackers often are used as snacks between meals.



As babies grow and develop, junior foods, which have a coarser texture, accustom them to more texture. Usually babies are ready for junior foods at 7 to 9 months of age when sufficient teeth have appeared to develop interest in chewing. "Toddler" foods are available to bridge the gap between baby foods and regular family meals.

The infant should be eating a wide variety of foods by 6 months of age. A baby needs the same foods as adults, but in smaller quantities and perhaps prepared a little differently. The amount and variety of foods will increase throughout the year. Foods should be selected from the Basic Four Groups.



Foods usually found in a good daily diet for a 1-year-old include:

Fortified milk	3 to 4 cups
Egg	1 whole
Meat, poultry, fish	2 tablespoons
Potatoes	2 tablespoons
Vegetable (green leafy or deep yellow)	2 tablespoons
Fruit for vitamin C	1 medium orange or 1/2 to 3/4 cup tomato juice
Other fruit	1/4 cup
Cereal	1/4 cup
Bread	1/2 to 1 slice
Butter/margarine	1 teaspoon

Nutrition-Related Problems During Infancy

Obesity:

There is increasing evidence that overfeeding during infancy may be related to obesity later in life. During the early years, fat cells divide in number as well as increase in size. Therefore, overfeeding may cause the baby to have more fat cells than normal. These often remain throughout life.

Whether bottle or breast feeding contributes to the problem of obesity is yet to be determined. However, most studies indicate bottle-fed babies gain more rapidly in weight and length during the first 3 or 4 months than breast-fed babies. A breast-fed baby stops feeding when he is full. On the other hand, bottle-fed babies often are encouraged to drain the last drop from the bottle, thus establishing an artificial endpoint. In this way, bottle feeding may lead to overfeeding.

If families are concerned about overfeeding a baby, they should check with the doctor. He or she can make recommendations to prevent this problem.

Skim milk generally is not recommended for infant feeding. Although it may be good in the prevention of obesity, infants may not be getting enough calories for energy. Skim milk would provide a high-protein, low-fat beverage that might be inadequate in essential fatty acids.

Nursing bottle syndrome:

This dental condition of young children is characterized by extensive decay of all the upper teeth and, in some instances, some of the lower back teeth. The syndrome is caused by direct and prolonged contact of the teeth with sugar, syrup or honey-sweetened water, milk or fruit juice drunk from a nursing bottle when sucking and swallowing are infrequent and salivary flow is diminished.

It occurs most frequently when nursing bottles are used as pacifiers at bedtime by children who are much beyond the bottle feeding age.

To prevent this condition, doctors usually recommend that children not be put to bed with bottles, but rather with a pacifier. In the event a bottle is necessary, the beverage should be plain milk or fluoridated water.

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Other Publications Related to Infant Nutrition (Available from your county Extension agent)

- B-1030 *Good Nutrition is a Treasure*
- L-985 *Babies are Mimics*
- L-986 *Meeting Baby's Needs*
- L-987 *Food Baby Needs During First Year*
- L-988 *Saving Money When Buying Food for Baby*
- L-989 *Call on Your Doctor*

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